

COKER et al
Appl. No. 09/868,241
March 1, 2004

REMARKS/ARGUMENTS

Claims 1, 2, 12, 13 and 14 have been amended and therefore claims 1-3, 5, 6 and 12-15 remain in this application.

During applicants' review of the pending claims in this application, applicants believe that the claimed invention can be stated somewhat more succinctly than the previously submitted claims. Applicants have proposed amendments to the claims clarifying that while the inequality of the overall set of n-digit binary number signals can be reduced, it is done so by the reduction of inequality in at least one of the binary number signals.

Entry of the Amendment under Rule 116

These claim amendments are responsive to various points raised by the Examiner for the first time in the outstanding Official Action. For example, the Examiner suggests that the use of the term "closer to equality" is a relative term which renders the claims indefinite. As will be seen, the prior art references make no mention of any method to reduce inequalities at the pixel level of an LCD, and therefore the above amendments responsive thereto should be entered for the purposes of appeal. Additionally, because the Examiner did not previously raise this issue with respect to applicants' independent claims, entry is appropriate. Because entry of this amendment will not result in any increase in the number of claims or raise new issues requiring further consideration and/or search, entry under the provisions of Rule 116 is respectfully requested.

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While the cover sheet of the Official Action indicates that claims 1-3, 6 and 12-15 are rejected and that claim 5 is objected to, there is no indication of how or what claims are rejected under the provisions of 35 USC §112. Clarification of this fact is respectfully requested, although applicants, for the purpose of this Amendment under Rule 116, will assume that the Examiner intended to reject claims 1-3, 5, 6 and 12-15 under the provisions of 35 USC §112 (second paragraph) (in view of the fact that these claims are mentioned in the text of Section 1, although they are not indicated as being rejected under §112).

The Examiner suggests the term "closer equality" is somehow indefinite. Applicants bring Section 2173.01 of the Manual of Patent Examining Procedure (MPEP) to the Examiner's attention. This section specifically indicates that "applicant may use functional language . . . which makes clear the boundaries of the subject matter for which protection is sought." Quite clearly, as set forth in applicants' specification, it is desirable to have the number of zeros and the number of ones equal in order to achieve dc balance.

Often an intensity signal in binary form may have a significant difference in the number of ones and zeros, leading to an inequality of perhaps two, three or four numbers. A reduction in the amount of the inequality serves to bring the number of zeros and the number of ones "closer" to equality. While applicants' claim does not specify how close to equal the result might be, the claim nevertheless clearly and exactly specifies that the method is in adjusting individual binary number signals so as to be "closer" to equality,

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thereby bringing the overall signal set closer to equality and improving DC balance in the light modulating apparatus.

Thus, the only limitation in applicants' independent claims is that the DC balance be brought closer to equality and applicants do not intend, nor do applicants wish, any limit on how much closer to equality the numbers are, in order to be covered by the claim. Should the Examiner have some case law or MPEP rule which indicates that the applicants must specify how close to equality limitation must be specified in the claim, he is respectfully requested to point out that precedent to applicants' undersigned representative. Accordingly, and absent any such requirement of specifying exactly "how close to equality" the numbers should be, any further rejection thereunder is respectfully traversed.

Inasmuch as claims 1-3 is believed to meet the requirements of 35 USC §112, claim 5 is believed allowable in view thereof. The Examiner's indication of allowable subject matter in claim 5 is very much appreciated, and in view of the above, applicants believe claim 5 to be in condition for allowance and notice to that effect is respectfully solicited.

The Examiner also rejects claims 1-3, 6 and 12-15 as being unpatentable over Aoki (U.S. Patent 4,775,891). In the Aoki reference there is described a liquid crystal image display apparatus which was able to utilize NTSC video signals without a degradation in image quality. Aoki used only half the video signal and included an A/D converter (3) which sampled a video signal and produced a 4-bit digital (see column 5,

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lines 13-15). The output of A/D converter 3 could be regarded as an image signal in accordance with the present invention.

However, the Examiner suggests that Aoki shows a device wherein the driving means (data control circuit 4) alters the n-bit number to a closely adjacent value having its number of ones and zeros closer to equality. For support, the Examiner cites Figure 3 (even though the Examiner states Figure 4, it appears that Figure 3 was intended) at row 9 where the 4-bit number 0111 is replaced with two 3-bit numbers 011 and 100.

The present invention requires that the driving means is arranged to alter a first "n-digit number" in respect of at least one of the pixels to a "different n-digit number" having a closely adjacent value so that the numbers of ones and zeros written over the writing of a complete image are brought closer to equality, thereby improving the dc balance. As noted above, Aoki does not alter an n-digit binary number to improve dc balance. It replaces the n-digit number with two (n-1) digit numbers, i.e. instead of altering the 4-digit number in Aoki, it is replaced with two 3-digit numbers.

Thus, Aoki obtains its digital balance by changing the 4-digit number into two 3-digit numbers. This is not the method of applicants' independent claims. As a result, Aoki clearly fails to teach the subject matter of applicants' claimed invention. Where or how the Examiner believes Aoki teaches altering a first n-digit number to a different n-digit number is not seen and clarification is requested.

While applicants offer the above amendments to claims 1, 2, 12-14, applicants are comfortable appealing based on the original claim language and an appeal in this case

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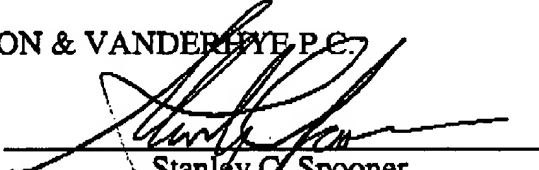
was noted on January 29, 2004. However, applicants believe the minor amendments made to the claim render it clear that this claim is not anticipated or rendered obvious by the Aoki reference and, in view of the amendments, all pending claims are in condition for allowance.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 1-3, 5, 6 and 12-15 are in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact applicants' undersigned representative.

Respectfully submitted,

NIXON & VANDERHYE P.C.

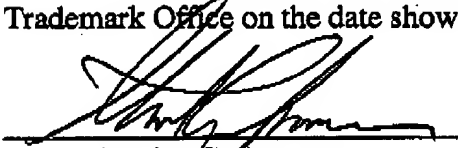
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3/2/04
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